This Listing of Claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS

Claim 1 (currently amended): Process for protectively coating an ejection chamber ~~(35)~~ of an ink jet printhead, to reduce damaging effects of aggressive inks, comprising the following steps:

step a): disposing of a die ~~(20)~~ comprising a silicon substrate ~~(21)~~ covered by a plurality of metallic and dielectric layers ~~(23,24, 25)~~ in which is made an array of microcircuits for driving of thermal elements ~~(22)~~ for ejection of said ink, and also comprising a sacrificial metallic layer ~~(26)~~, provided with a cast ~~(27)~~ for at least one ejection nozzle ~~(37)~~, said sacrificial layer ~~(26)~~ and said cast ~~(27)~~ defining the inner shape of a chamber ~~(35)~~, of a feeding duct ~~(36)~~ connected to it and of said at least one nozzle ~~(37)~~;

step b): depositing on the outer surface of said sacrificial layer ~~(26)~~, through an electrochemical process, at least one metallic, protective coating layer ~~(30)~~;

step c): applying on said coating layer ~~(30)~~ a layer, the adhesion layer, ~~(31)~~ having a thickness preferably of about 1000 Å, to promote the adhesion of resins on said protective metals ~~(30)~~;

step d): depositing on said adhesion layer ~~(31)~~ a structural layer ~~(32)~~ of non-photosensitive epoxy or polyamide resin, having a thickness preferably between 20 and 60 μm, so as to completely cover said sacrificial layer ~~(26)~~, including the cast ~~(27)~~ of the nozzle ~~(37)~~;

step e): performing a polymerization of said structural layer ~~(32)~~ to increase its mechanical resistance to mechanical and thermal stresses;

step f): performing a planarization of the outer surface ~~(33)~~ of said structural layer ~~(32)~~, by way of a mechanical lapping and simultaneous CMP type chemical treatment (Chemical-Mechanical-Polishing), or other similar process, to uncover the upper cap ~~(34)~~ of the cast ~~(27)~~ of copper;

step g): removing said sacrificial layer ~~(26)~~ and said cast ~~(27)~~ by means of a chemical etching, using a highly acid bath, formed for instance of a mix of HCl and HNO_3 in a solution;

step h): depositing on the outer surface ~~(33)~~ of said structural layer ~~(32)~~, in a vacuum evaporation operation, a protective layer ~~(39)~~ of thickness preferably of approximately 1000 Å.

Claim 2 (currently amended): Process according to claim 1, wherein said metallic coating layer ~~(30)~~ is made of nickel-gold [[;]] .

Claim 3 (currently amended): Process according to claim 1, wherein said metallic coating layer ~~(30)~~ is made of palladium-gold.

Claim 4 (currently amended): Process according to claim 1, wherein said metallic coating layer ~~(30)~~ is made of rutenium.

Claim 5 (currently amended): Process according to claim 1, wherein said protective layer ~~(39)~~ is made of a noble metal.

Claim 6 (currently amended): Process according to claim 5, wherein said protective layer ~~(39)~~ is made of chromium.

Claim 7 (currently amended): Process according to claim ~~8~~ 1, wherein said protective layer ~~(39)~~ is made of magnesium fluoride and oxygen ($MgF_2 + O_2$).

Claim 8 (currently amended): Process according to claim 1, wherein said protective layer ~~(39)~~ is made of silica and chromium ($SiO_2 + Cr$).

Claim 9 (currently amended): Ink jet printhead, made of a silicon substrate ~~(21)~~ and a plurality of metallic and dielectric layers ~~(23, 24, 25)~~ deposited on said substrate ~~(21)~~, wherein a plurality of chambers ~~(35)~~ for ejection of ink droplets and of corresponding feeding ducts ~~(36)~~, connected to the former, is produced in one of said dielectric layers ~~(32)~~, said chambers ~~(35)~~ and said ducts ~~(36)~~ being delimited by at least one upper wall ~~(35a)~~, said upper wall ~~(35a)~~ communicating with at least one nozzle ~~(37)~~ for ejection of said ink droplets, ~~characterized in that~~ wherein said upper wall ~~(35a)~~ and an inner wall ~~(37a)~~ of said nozzle ~~(37)~~ are coated with at least one metallic

coating layer ~~(30)~~, suitable for increasing the resistance of said walls ~~(35a, 37a)~~ to chemically aggressive liquids, in contact with said walls.

Claim 10 (currently amended): Printhead as in claim 9, ~~characterized in that~~ wherein said upper wall ~~(35a)~~ communicates continuously with said inner wall ~~(37a)~~ of said nozzles ~~(37)~~.

Claim 11 (currently amended): Printhead as in claim 9, ~~or 10, characterized in that~~ wherein said upper wall ~~(35a)~~ is delimited by a concave surface.

Claim 12 (currently amended): Printhead as in claim 10, ~~characterized in that~~ wherein said inner wall ~~(37a)~~ of the nozzles ~~(37)~~ is delimited by a truncated cone shaped surface having its greater base disposed towards said upper wall ~~(35a)~~.

Claim 13 (currently amended): Printhead as in ~~one of the claims from~~ claim 9 ~~to 12~~, ~~characterized in that~~ wherein said metallic coating layer ~~(30)~~ is made via a deposition of nickel and gold.

Claim 14 (currently amended): Printhead as in ~~one of the claims from~~ claim 9 ~~to 12~~, ~~characterized in that~~ wherein said metallic coating layer ~~(30)~~ is made via a deposition of palladium and gold.

Claim 15 (currently amended): Printhead as in ~~one of the claims from~~ claim 9 ~~to 12~~, ~~characterized in that~~ wherein said metallic coating layer ~~(30)~~ is made via a deposition of rutenium.

Claim 16 (currently amended) Ink jet printhead, made of a silicon substrate ~~(20)~~ and a plurality of metallic and dielectric layers ~~(23, 24, 25)~~ deposited on said substrate ~~(20)~~, wherein a plurality of chambers ~~(35)~~ for ejection of ink droplets and corresponding feeding ducts ~~(36)~~, connected to the former, are made in one ~~(32)~~ of said dielectric layers, said chambers ~~(35)~~ and said ducts ~~(36)~~ being delimited by at least one upper wall ~~(35a)~~, said upper wall ~~(35a)~~ communicating with at

least one ejection nozzle ~~(37)~~ of said ink droplets, ~~characterized in that~~ wherein said chambers ~~(35)~~, said feeding ducts ~~(36)~~ connected to them and said at least one ejection nozzle ~~(37)~~ are made in the process according to ~~claims from~~ claim 1 ~~to 8~~.

Claim 17 (currently amended): Process of protectively coating against aggressive liquids hydraulic microcircuits ~~(35, 36, 37)~~ made in a resin ~~(32)~~, comprising the following steps:

step a): disposing of a die ~~(20)~~ comprising a silicon substrate ~~(21)~~ covered by a plurality of metallic and dielectric layers ~~(23, 24, 25)~~, and also comprising a sacrificial metallic layer ~~(26)~~ defining the inner shape of said hydraulic microcircuits ~~(35, 36, 37)~~;

step b): depositing on the outer surface of said sacrificial layer ~~(26)~~, in an electrochemical process, at least one metallic, protective coating layer ~~(30)~~;

step c): applying on said coating layer ~~(30)~~ a layer, the adhesion layer, ~~(31)~~ having a thickness preferably of approximately 1000 Å, to promote the adhesion of resins on said protective metals ~~(30)~~;

step d): depositing on said adhesion layer ~~(31)~~ a non-photosensitive epoxy or polyamide resin ~~(32)~~, having a predetermined thickness and completely covering said sacrificial layer ~~(26)~~;

step e): performing a polymerization of said resin ~~(32)~~ to increase its mechanical resistance to mechanical and thermal stresses;

step f): performing a planarization of the outer surface ~~(33)~~ of said resin ~~(32)~~, through a mechanical lapping and simultaneous CMP type chemical treatment (Chemical-Mechanical-Polishing), or other similar process;

step g): removing said sacrificial layer ~~(26)~~ via a chemical etching, by means of a highly acid bath, formed for instance of a mix of HCI and HNO_3 in a solution;

step h): depositing on the outer surface ~~(33)~~ of said resin ~~(32)~~, in a vacuum evaporation operation, a protective layer ~~(39)~~.